

Miniature GPS Interference Suppression Unit for Precision Guided Missiles (ISU-PGMI) & UAVs



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VENDOR DESCRIPTION

The ISU-PGMI for missiles works with a simple fixed reception pattern antenna (FRPA). The system provides suppression of interfering signals while allowing the GPS signals to pass with minimal attention. The system is designed for L1&L2 P Code, and is M Code capable. Variants of the ISU-PGMI are also being developed for precision guided munitions.

The ISU-PGMI operates at RF, thus enabling its use with any legacy or emerging GPS receiver. Missiles using a FRPA antenna can easily adapt the ISU-PGMI. The application of the ISU-PGMI with the existing GPS receiver can provide over 90 dB of overall system anti-jam protection. Variants of the ISU-PGMI have been demonstrated in laboratory, anechoic chamber, and field tests. ERI's application of commercial off-the-shelf technology permits an affordable solution in today's value-conscious environment.



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Antenna Electronics Unit

Input Frequency Range: 1575.42 \pm 12 MHz and 1227.6 \pm 12 MHz (Lm capable)	DC Power: +5 VDC
Interference Dynamic Range: -95 dBm to -40 dBm	Power Dissipation: < 4 Watts
Interference Waveform: Tone (CW), Pulsed, Swept, AWGN (24 MHz Additive White Gaussian Noise)	Weight: < 8 oz
Interference Suppression: > 35 dB Tone, > 25 dB AWGN	Dimensions: 4.0" x 3.6" x 0.45"
Interference Detection Threshold: > -95 dBm @ 0 dBi Antenna	Operating Altitude: to 70,000 ft AGL
Output Frequency Range: 1575.42 \pm 12 MHz and 1227.6 \pm 12 MHz	Operating Temp.: -40°C to +75°C
GPS Signal Gain: 26 dB \pm 3 dB (standard, optional up to 42 dB)	Relative Humidity: 90% non-condensing
Noise Figure: < 3 dB	Random Vibration: 0.008 g ² /Hz
Interference Acquisition Time: 35 msec	Cooling: Convection
Track Update Time: 0.4 msec	Interface: Standard: RS-232, RS-422, (discrete) Jam Detect/ RS-485 (optional)
	Built-In-Test: Optional

L₁ and L₂ Antenna (purchased with Antenna Electronics Unit or externally provided)

Frequency Range: 1575.42 \pm 12 MHz and 1227.6 \pm 12 MHz	Dimensions: 3.5" Dia.
Antenna Gain: > 0 dBi (\pm 600 from zenith)	Weight: < 10 oz.